

COMPACT OPTICAL SYSTEM AND PACKAGING FOR HEAD MOUNTED DISPLAY

Abstract of the Disclosure

5 A head mounted virtual image display unit is provided which is compact in size
and weight, and incorporates a high performance optical system offering a clear
see-through capability. A sliding light shield may be incorporated for those instances
when see-through capability is not desired. A focus adjustment may be incorporated to
permit the focusing of the image, for example, at a distance of approximately 18 inches to
infinity. An adjustable headband may be incorporated that adapts to fit the users head. A
10 flexible boom structure may be incorporated to facilitate fine positional adjustment of the
optical assembly. A slider and ball joint mechanism may also be incorporated to facilitate
positional adjustment of the optical assembly. A built-in microphone may be
incorporated to enable speech input by the user. The head mounted virtual image display
unit may be used comfortably in conjunction with eye or safety glasses, and provides a
15 useful image to the user without blocking his view of the surrounding environment. The
unit is designed to have a pleasing appearance so as to greatly enhance user acceptability.